

REMARKS

The examiner has rejected claims 20-21 under 35 USC 112, first paragraph. Claims 20 and 21 have been canceled, rendering the rejection moot. Cancellation of claims 20 and 21 also removes the objection to the amendment filed December 12, 2008 as introducing new matter.

The examiner has rejected claims 13-21 under 35 USC 103 over Stevens in view of Dal Pra'.

The subject matter of this application, as defined in claim 13, is discussed in the response filed December 12, 2008 to the Office Action mailed August 14, 2008. Applicant will not repeat that discussion at this time, but points out two significant features of the subject matter defined in claim 13, namely that the first and second potentiometers are coupled with the common potentiometer shaft and have at least substantially identical characteristic curves.

Stevens et al discloses a door operating system 10 including a gear chain assembly 100 (FIG. 1) for permitting a motor 212 (FIG. 5A) to drive the door. The motor 212 has an output shaft coupled through a gear chain assembly, which receives rotational energy from the motor shaft and applies the energy to the door to move the door. Applicant submits that it would be clear to a person of ordinary skill in the art that the gear chain assembly is a reduction gear, in order to allow a relatively small motor to drive the door.

Referring to FIG. 1, the sprocket 144 applies force from the motor 212 for driving the extension arm shaft 128 when the door is being opened, whereas when the motor is reversed and the door closer 404 is closing the door the sprocket 144 backs away freely from the arm base extension 140.

The gear chain assembly 100 includes a potentiometer 108 that permits determination of the motion of the motor and a potentiometer 130 that permits determination of the motion of the door. Thus, the potentiometers 108 and 130 permit independent determinations of the motion of the door and the motion of the

motor. Feedback with respect to the position of the door is provided by potentiometer 130 and feedback with respect to the position of the drive shaft of motor 212 is provided by potentiometer 108.

The description in Stevens is ambiguous, in that the sentence starting at column 4, line 1 indicates that the gears 104, 132 are coupled to the potentiometers 108, 130 respectively, whereas the sentence starting at column 4, line 10 indicates that the gear 132 is coupled to potentiometer 108, not potentiometer 130. Regardless, one of the potentiometers is driven by the sprocket 144 and the other is driven by the extension arm shaft 128. Thus, the two potentiometers have different respective drive trains, and the drive trains are only conditionally coupled to each other.

Dal Pra' discloses an electrically powered actuator for controlling a bicycle component. An electric motor 2 has an output shaft 3 that is coupled through an epicyclic gear to a shaft 11 on which is mounted an electrical rotary potentiometer 25 operating as an angular shaft position sensor.

The examiner asserts that the potentiometers 108, 130 disclosed by Stevens have at least substantially identical characteristic curves, but has not explained why the characteristic curves of the potentiometers are considered to be at least substantially identical.

The examiner acknowledges that Stevens does not disclose a common operation shaft that is coupled with the potentiometer shafts. The examiner relies on Dal Pra' as disclosing a potentiometer coupled to the operation shaft of a motor, and contends that it would have been obvious to have had two potentiometers sharing the output shaft of the motor. Applicant respectfully disagrees.

Neither Stevens nor Dal Pra' discloses or suggests that two potentiometers having at least substantially identical characteristic curves should be coupled to a common operation shaft and should be arranged so that the respective

characteristic curves are shifted in phase with respect to one another. To the extent that Stevens discloses two potentiometers, they monitor different respective quantities, namely door position and motor shaft position. Stevens does not suggest that two potentiometers should be used to monitor the same quantity. Dal Pra' discloses a single potentiometer coupled indirectly to the output shaft 3 of the motor and therefore also fails to disclose or suggest that two potentiometers should be used to monitor the same quantity. The only reference that discloses use of two potentiometers, namely Stevens, does not suggest that the respective characteristic curves of the two potentiometers should be shifted in phase with respect to each other.

In view of the foregoing, applicant submits that the disclosed the subject matter, as defined in claim 13, is not disclosed or suggested by Stevens and Dal Pra', whether taken singly or in combination. Therefore, claim 13 is patentable and it follows that the dependent claims 14-19 also are patentable.

Respectfully submitted,

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Docket: AWEK 3305